

Appln. No. 09/346,283  
Amendment dated March 7, 2005  
Reply to Office Action mailed January 11, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims** (deleted text being struck through and added text being underlined):

1        1. (Previously Presented) An integrated circuit with a  
2 micromechanical element comprising a semiconductor support substrate  
3 supporting a micromechanical sensor element, a logic circuit and a  
4 semiconductor visual display element, the sensor element electrically  
5 connected to the logic circuit, and the logic circuit being electrically  
6 connected to the semiconductor visual display element.

1        2. (Original) The integrated circuit of claim 1 wherein said  
2 semiconductor display element comprises an array of light-emitting pn  
3 junctions.

1        3. (Original) The integrated circuit of claim 2 wherein said light-  
2 emitting pn junctions comprise GaAs light-emitting pn junctions.

1        4. (Previously Presented) The integrated circuit of claim 1 wherein  
2 said visual display element comprises an array of semiconductor pixels  
3 having pitch dimensions of less than 20 micrometers.

1        5. (Previously Presented) The integrated circuit of claim 2 wherein  
2 said visual display element comprises an array of semiconductor pixels  
3 having pitch dimensions of less than 20 micrometers.

1        6. (Previously Presented) The integrated circuit of claim 3 wherein  
2 said visual display element comprises an array of semiconductor pixels  
3 having pitch dimensions of less than 20 micrometers.

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1        7. (Original) The integrated circuit of claim 1 wherein said sensor  
2 element is selected from the group consisting of strain gauges, thermal  
3 gauges, radiation gauges, and chemically responsive gauges.

8 through 11. (Canceled)

1        12. (Previously Presented) An integrated circuit with a  
2 micromechanical element comprising a semiconductor support substrate  
3 supporting a moveable micromechanical sensor element, a logic circuit and  
4 a semiconductor light emitting visual display element, the moveable  
5 micromechanical sensor element electrically connected to the logic circuit,  
6 and the logic circuit being electrically connected to the semiconductor light  
7 emitting visual display element.

1        13. (Previously Presented) An integrated circuit provided on the  
2 substrate with a unified input element and display element, the integrated  
3 circuit comprising:

4              a movable microengineered input element;  
5              a logic circuit configured on the substrate and electrically connected  
6 to the input element; and  
7              an output element, the logic circuit being electrically connected to the  
8 output element;  
9              wherein the output element is a semiconductor visual display element.

1        14. (Previously Presented) The integrated circuit of claim 13, further  
2 comprising: a semiconductor support substrate supporting the input element.

1        15. (Previously Presented) The integrated circuit of claim 14, wherein  
2 the input element is a micromechanical sensor element.

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1        16. (Previously Presented) The integrated circuit of claim 14, wherein  
2        the input element is selected from a group consisting of an inertial sensor  
3        and an accelerometer.

1        17. (Previously Presented) The integrated circuit of claim 14, wherein  
2        the input element is selected from a group consisting of a strain gauge, a  
3        thermal gauge, a radiation gauge, and a chemically responsive gauge.

1        18. (Previously Presented) The integrated circuit of claim 15, wherein  
2        the micromechanical sensor element is configured to generate an electrical  
3        signal in response to an environmental or conditional change.

1        19. (Previously Presented) The integrated circuit of claim 18, wherein  
2        the output element is an array comprising pixels of less than 25  
3        micrometers.

1        20. (Previously Presented) The integrated circuit of claim 18, wherein  
2        the output element is an array comprising pixels configured to display  
3        alphanumeric characters.

1        21. (Previously Presented) The integrated circuit of claim 20 wherein  
2        the input element is a first input element, the integrated circuit further  
3        comprising:  
4              a second input element.

1        22. (Previously Presented) The integrated circuit of claim 1 wherein  
2        the visual display element provides a visual indication of a condition sensed  
3        by the sensor element.

1        23. (Previously Presented) The integrated circuit of claim 22 wherein  
2        the visual indication comprises an alphanumeric character.

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1        24. (Previously Presented) The integrated circuit of claim 22 wherein  
2        the visual indication comprises multiple colors.

1        25. (Previously Presented) An integrated circuit provided on a  
2        substrate with a unified input element and display element, the integrated  
3        circuit comprising:

4              a moveable microengineered input element supported by the substrate  
5        that senses a condition;

6              a logic circuit configured on the substrate and electrically connected  
7        to the input element; and

8              a visual display element supported by the substrate and coupled to the  
9        logic circuit that provides a visual image;

10             wherein the visual image is a visual representation of the sensed  
11      condition.

1        26. (Previously Presented) An integrated circuit provided on a  
2        substrate with a unified input element and display element, the integrated  
3        circuit comprising:

4              a moveable microengineered input element supported by the substrate  
5        that senses a condition, wherein the input element is a strain gauge;

6              a logic circuit configured on the substrate and electrically connected  
7        to the input element; and

8              a visual display element having multiple light-emitting pn junctions  
9        supported by the substrate and coupled to the logic circuit, wherein the  
10      visual display element provides a visual image comprising a visual  
11      representation of the sensed condition.

1        27. (Previously Presented) The integrated circuit of claim 1 wherein  
2        said semiconductor support substrate is formed of a semiconductor.